JC772 U.S. PTO
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PATENT
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Commissioner for Patents
BOX PATENT APPLICATION
Washington, D.C. 20231

JC851 U.S. PTO
09/604797
06/27/00

TRANSMITTAL FOR A NEWLY EXECUTED ORIGINAL APPLICATION UNDER 37 C.F.R. §1.53(b)

This is a request for filing a patent application under 37 C.F.R. §1.53(b) for:

09604797.062700

Inventor(s): Shinji YOSHIDA

For: RECORDING MEDIUM REPRODUCTION APPARATUS

1. This is a new [X] **Utility** [ ] **Design** [ ] **Plant** patent application.

2. The papers enclosed to obtain a filing date are as follows:
   14 Pages of Specification including
   0 Title Page
   2 Pages of Claims
   1 Page(s) of Abstract
   8 Sheets of drawings containing 8 Figures

   [ ] The enclosed drawing(s) are photograph(s), and there is also attached a PETITION TO ACCEPT PHOTOGRAPH(S) AS DRAWING(S)

3. Combined Declaration and Power of Attorney
   [X] Enclosed and is executed by all inventors.
   [ ] Not Enclosed.
   This application is being filed under the provisions of 37 C.F.R. §1.53(f). Applicant(s) await notification from the Patent and Trademark Office of the time set for filing the Declaration and paying the filing fees.

4. Language
   [X] English
   [ ] Non-English
   This application is being filed in accordance with 37 C.F.R. §1.52(d) and §608.01 of the MPEP. Applicant(s) await notification from the Patent and Trademark Office of the time set for filing the verified English translation and the processing fee.

5. Assignment

   [X] An assignment of the invention to Funai Electric Co., Ltd. and a PTO Form-1595, Recordation Form Cover Sheet, are enclosed.

   [ ] An assignment will be filed at a later date.

6. Priority - foreign applications under 35 U.S.C. §119(a)-(d) or §365(b) or PCT international applications under 35 U.S.C. §365(a) designating at least one country other than the U.S.

   [X] Priority of the following foreign application(s) is claimed:

Country	Application No.	Filed
Japan	11-183584	June 29, 1999

Certified copy(ies): [X] is/are attached. [ ] will follow.

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7. Priority based on provisional application(s) - 35 U.S.C. §119(e)

   [ ] Priority of the following provisional application(s) is claimed:

Application No.	Filed

A. Relate Back - 35 U.S.C. §119(e)

[ ] Amend the specification by inserting before the first line the sentence: "This application claims priority of copending provisional application(s) No. _______ filed on ________."

8. Small entity status

[ ] A statement claiming small entity status under 37 C.F.R. §§1.9 and 1.27 is enclosed.

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9. Fee Calculation (37 C.F.R. §1.16)

CLAIMS FOR FEE CALCULATION				
▨	Number Filed	Number Extra	at Rate of	Basic Fee Utility $690.00 Design $310.00
Total Claims (37 C.F.R. §1.16(c))	5 - 20 =	0	$ 18.00 each=	$0.00
Independent Claims (37 C.F.R. §1.16(b))	2 - 3 =	0	$ 78.00 each=	$0.00
Multiple dependent claim(s), if any (37 C.F.R. §1.16(d))			$260.00	+
			SUB-TOTAL =	**$690.00**
			Reduction by 1/2 for filing by a small entity	**- $**
			TOTAL FILING FEE =	**$690.00**

10. Fee Payment

[ ] Not Enclosed. **NO FEE IS BEING PAID BY CHECK OR DEPOSIT ACCOUNT AT THIS TIME.**
This application is being filed under the provisions of 37 C.F.R. §1.53(f). Applicant(s) await notification from the Patent and Trademark Office of the time set for filing the Declaration and paying the filing fees.

[X] Enclosed.
Two check(s) in the amounts of $ 690.00 and $40.00 representing the filing fee of $690.00 and an assignment recording fee of $40.00 are enclosed.

11. [X] **Except** for issue fees payable under 37 C.F.R. §1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-0310. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR EXTENSION OF TIME** in accordance with 37 C.F.R. §1.136(a)(3).

12. Additional papers enclosed:

[ ] Preliminary Amendment
[X] Information Disclosure Statement
[X] Form PTO-1449, 1 document listed thereon
[ ] Declaration of Biological Deposit
[ ] Submission of "Sequence Listing", computer readable copy and/or amendment pertaining thereto for biotechnology invention containing nucleotide and/or amino acid sequence.

Please accord this application an application number and filing date.

Respectfully submitted,

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RECORDING MEDIUM REPRODUCTION APPARATUS

BACKGROUND OF THE INVENTION

The present invention relates to recording medium reproduction apparatus and more particularly to a recording medium reproduction apparatus characterized in that a skip reproduction over a designated section can be done according to the contents therein.

A still image reproduction apparatus proposed in Japanese Patent Publication No. 3-248370A aims to solve the problem of unnaturalness arising from gaining access to one recorded image that one would not like any other person to watch when a plurality of recorded still images on a tape-type recording medium reproduction medium are sequentially reproduced.

DVD (Digital Versatile Disk) players are equipped with parental locks for restricting the reproduction of scenes such as violence or sex scenes (hereinafter called adult scenes) contained in the contents and considered as those badly affecting the sound growth of infants and minors.

In that case, the control level based on the prescribed ethical standard is pre-recorded on the disk corresponding to the parental lock function by matching each scene in the contents to the ethical standard.

While the parental lock function is kept effective after the reproduction level based on the control level is set to the DVD player, only a scene wherein the control level recorded on the disk conforms to the reproduction level is reproduced when the disk is played, and any other scene is skipped. In place of the skip reproduction, an alternative scene may be reproduced by replacing any

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scene to be skipped with the alternative one beforehand.

More specifically, infants and minors are allowed to enjoy sound and images included in the contents at parent's ease because the use of the parental lock function makes it possible to skip any adult scene on the basis of the control level added by the contents supplier without any specific operation on the part of user.

However, the parental lock function of the DVD player will not be performable in a case where the control level is not recorded in the contents for reasons of the contents supplier's own such as cost restrictions.

Under the circumstances, parents of children are compelled to do a skip reproduction as specified when the children want to watch and hear the contents by examining the contents from beginning to end and specifying scenes to be skipped.

Therefore, the demand is for a contrivance to be developed for relieving those parents of the operational burden.

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SUMMARY OF THE INVENTION

An object of the present invention made in the above circumstances is to provide a recording medium reproduction apparatus capable of an automatic skip reproduction over predetermined sections of contents without a pre-recorded control level.

In order to achieve the above object, according to the present invention, there is provided an apparatus for reproducing contents recorded on a recording medium exchangeably loaded therein in a predetermined order and for reproducing the same skippingly regardless the predetermined order, the apparatus comprising:

a diskriminator for diskriminating the contents of the loaded recording medium;

a registration controller for accepting skipped section information including a start point and a termination point of a section to be reproduced skippingly and for associating the skipped section information with the diskriminated contents;

a point table for storing a plurality of the skipped section information associated with the respective contents; and

a reproduction controller for reading out at least one of the skipped section information stored in the point table in accordance with the diskriminated contents, and for skippingly reproducing the contents in accordance with the read out skipped section information.

Even in the case of contents without a pre-recorded control level, sections to be subjected to skip reproduction are be registered beforehand according to the invention, whereby the skip reproduction can be done automatically over the sections.

Preferably, the diskriminator diskriminates the contents of the loaded recording medium based on diskrimination information recorded on the loaded recording medium.

Since the disk is identified according to the identifying data recorded on the disk of the second invention, the processing burden can be decreased.

According to the present invention, there is also provided a method for skippingly reproducing contents recorded on a recording medium exchangeably loaded in an reproduction apparatus, comprising the steps of:

diskriminating the contents of the loaded recording medium;

accepting skipped section information including a start point and a termination point of a section to be reproduced skippingly;

registering the accepted skipped section information in a point table while associating with the diskriminated contents;

reading out the skipped section information registered in the point table in accordance with the diskriminated contents; and

skippingly reproducing the contents in accordance with the read out skipped section information.

Preferably, a plurality of the skipped section information associated with the respective contents are registered in the point table. Then at least one of the skipped section information is selected in accordance with the diskriminated contents to be skippingly reproduced.

Preferably, the contents of the loaded recording medium is diskriminated based on diskrimination information recorded on the loaded recording medium.

BRIEF DESCRIPTION OF THE DRAWINGS

In the accompanying drawings:

Fig. 1 is a block diagram showing a schematic configuration of a recording medium reproduction apparatus according to one embodiment of the invention;

Figs. 2 and 3 are flowcharts showing a procedure for registering a section to be skipped;

Fig. 4 is a flowchart showing a procedure for setting a personal identification number;

Figs. 5 and 6 are flowcharts showing a procedure for performing a skip point editing;

Fig. 7 is a flowchart showing a procedure for performing a skip reproduction; and

Fig. 8 is a table showing one example of a skip point table.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Fig. 1 is a block diagram of a recording medium reproduction apparatus illustrating a signal processing system of a DVD player according to the invention. Reference numeral 1 denotes CPU and to the CPU 1, a servo controller 2 for driving and controlling a servo system including a spindle motor, a feed motor and so on, a memory 3 for dealing with the registration of control sections to be subjected to skip reproduction, and an interface circuit 4 for operating the registration of control sections are connected.

Further, the CPU 1 is fed with data (hereinafter called "disk data") for use in identifying a disk; the disk data, for example, BCA data, the total reproduction time and the like are read out by a pickup system.

In addition, the CPU 1 supplies control parameters for designating dubbed audio and subtitles to be reproduced to the signal processing system for streams of processing audio, subpicture and MPEG (Moving Picture Experts Group) video.

The memory 3 is provided with a skip point table 3a for storing the starting and termination points of sections to be subjected to skip reproduction corresponding a plurality of contents.

Fig. 8 shows an example of the skip point table. More specifically, the skip point table is used for storing DISK # as data for identifying disks on a content basis, POINT # indicative of the starting and termination points of predetermined sections to be subjected to skip reproductions, and the number of points indicative of the total number of sections to be subjected to skip reproductions, these corresponding to one another. The skip reproduction is automatically done according to the skip point table as described later.

The interface circuit 4 is connected to an operation button 5 and translates into a command the signal given by the operation key 5 and sends the command to the CPU 1.

The operation key 5 is constituted of a PLAY key 5a, a USER LOCK key 5b, a POINT key 5c and an UP/DOWN key 5d. The PLAY key 5a corresponds to the command to start the reproduction, the USER LOCK key 5b to register a section to be subjected to skip reproduction, the POINT key 5c to designate the starting and termination points of the section, and the UP/DOWN key 5d to edit the skip point table.

Figs. 2 and 3 are flowcharts showing procedures for registering a user lock section to be skipped in the recording medium reproduction apparatus. A process is started by depressing the USER LOCK key 5b and it is checked whether or not depressed time period is within a predetermined range of time, for example, not longer than two seconds (Step S2). If the depressed time period is within the predetermined range of time, whether or not a personal identification

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number has been set is checked (Step S4). If the personal identification number has not been set up yet, a process for setting the personal identification number is performed (Step S6), which will be described later. Then Step S4 is followed again and steps after this are repeated.

If the set-up personal identification number is found at Step S4, personal identification number input is requested so as to authenticate an operator from the personal identification number input (Step S8). When the operator is authenticated, it is checked whether each disk is the one registered in the skip point table 3a according to the disk data on the disk loaded, for example, the BCA data and the total reproduction time (Step S10). If the disk is found unregistered, a new record is selected as an edited object and DISK # is registered (Step S12) in order to start playing this disk (Step S14).

If the disk is found registered in the skip point table 3a at Step S10, a record corresponding to the DISK # identified as an edited object is selected (Step S16) in order to start playing the disk (Step S14).

During the playing of the disk, whether or not the POINT key 5c has been depressed is checked (Step S18). If the POINT key 5c has not been depressed yet, this action is repeated. When the POINT key 5c is depressed, a POINT # of the start point is registered in the record as the edited object (Step S20).

Whether or not the POINT key 5c has been depressed thereafter is checked (Step S22), and if it has not been depressed yet, this action is repeated. When the POINT key 5c is depressed, a POINT # of the termination point is registered in the record as the edited object (Step S24). Then the total number of the skip point is incremented and the result is registered in the record (Step

S26).

Further, whether or not the remaining reproduction time comes up to zero is checked (Step S28), and if it is not zero, Step S18 is followed again and steps after this are repeated. If the remaining reproduction time is found to be zero at Step S28, the reproduction is terminated (Step S30) and a user lock function is used to set the reproduction operation (Step S32) before the process is terminated.

If it is determined that the depressed time period of the USER LOCK key 5b has exceeded the predetermined time at Step S3, a skip point editing, which will be described later, is performed and the process is terminated then.

Fig. 4 is a flowchart showing a procedure for setting personal identification number to the recording medium reproduction apparatus. A personal identification number input screen is displayed (Step S42) and then personal identification number input with a predetermined number of digits is accepted (Step S44). Whether or not the USER LOCK key 5b has been depressed is checked (Step S46) and if it has not been depressed yet, Step S44 is followed again and steps after this are repeated.

If it is determined that the USER LOCK key 5b has been depressed at Step S46, the personal identification number is registered (Step S48) and the process is terminated after the personal identification number input screen is erased (Step S50).

Figs. 5 and 6 are flowcharts showing procedures for performing a skip point editing in the recording medium reproduction apparatus. A process is started by checking whether or not the personal identification number has been set (Step S52). If the personal identification number has not been set yet, the aforementioned process of setting the personal identification number is performed (Step S54) and then Step S52 is followed again and steps after this are repeated.

If the set-up personal identification number is found at Step S52, personal identification number input is requested so as to authenticate an operator from the personal identification number input (Step S56). When the operator is authenticated, it is checked whether each disk is the one registered in the skip point table 3a according to the disk data on the disk loaded, for example, the BCA data and the total reproduction time (Step S58). If the disk is found unregistered, the whole registered data is displayed on the screen as an object to be edited (Step S60). Then it is checked whether disk information of the loaded disk has been made the edited object (Step S62). When such a change is made, the disk information is displayed on the screen as the edited object (Step S64). If the disk is otherwise found registered in the skip point table 3a at Step S58, Step S64 is followed and steps after this are repeated.

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Further, it is checked whether the edited object has been made the POINT # (Step S66) and when such a change is made, the POINT # is regarded as an edited object (Step S68). If the disk information of the loaded disk has not been made the edited object at Step S62, or if the POINT # has not been made the edited object at Step S66, or if lock cancel operation is accepted after processing at Step S68, the registration of the edited object is canceled (Step S72). It is checked whether the termination of the skip point editing has been instructed and if it has not been so instructed, Step S58 is followed again and steps after this are repeated. If it is determined that the termination of the skip point editing has been instructed at Step S74, the whole process is terminated.

Moreover, the whole process is also terminated when the operator is not authenticated Step S56.

Fig. 7 is a flowchart showing procedure for performing the skip reproduction in the recording medium reproduction apparatus.

It is checked whether or not a reproduction using the user lock function has been set (Step S82) and if it has been set, it is checked whether each disk is the one registered in the skip point table 3a according to the disk data on the disk loaded, for example, the BCA data and the total reproduction time (Step S84). If the disk is otherwise found registered, POINT # is read out and set in the work area of the memory 3 (Step S86). The reproduction is also started by using the user lock function (Step S88). In other words, the skip reproduction is carried out when a reproduction point approaches the section defined by the POINT #.

It is checked whether or not the remaining reproduction time is zero (Step S90) and if it is not zero, this action is repeated. If the remaining time is found zero at Step S90, the reproduction operation is terminated (Step S92) and so is the whole process.

If the use of the user lock function is found unset for the reproduction purpose at Step S82 or if the disk is found unregistered in the skip point table 3a at Step S84, the normal reproduction operation is started (Step S94). Further, it is checked whether or not the remaining time is zero (Step S96) and if it is not zero, this action is repeated. If the remaining time is found zero at Step S90, the reproduction operation is terminated (Step S92) and so is the whole process.

As has been described heretofore, according to the present invention, since the skip reproduction is done according to the starting and termination points of the sections pre-recorded in the skip point table, superior effects are

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achievable thereby in that skip reproduction can be done over the predetermined sections of the contents without the pre-recorded control level.

Moreover, since the contents of the recording medium is identified according to the identifying data recorded on the recording medium, superior effects are also achievable thereby in that the processing burden can be lightened.

Although the present invention has been shown and described with reference to specific preferred embodiments, various changes and modifications will be apparent to those skilled in the art from the teachings herein. Such changes and modifications as are obvious are deemed to come within the spirit, scope and contemplation of the invention as defined in the appended claims.

WHAT IS CLAIMED IS:

1. An apparatus for reproducing contents recorded on a recording medium exchangeably loaded therein in a predetermined order and for reproducing the same skippingly regardless the predetermined order, the apparatus comprising:

a diskriminator for diskriminating the contents of the loaded recording medium;

a registration controller for accepting skipped section information including a start point and a termination point of a section to be reproduced skippingly and for associating the skipped section information with the diskriminated contents;

a point table for storing a plurality of the skipped section information associated with the respective contents; and

a reproduction controller for reading out at least one of the skipped section information stored in the point table in accordance with the diskriminated contents, and for skippingly reproducing the contents in accordance with the read out skipped section information.

2. The reproduction apparatus as set forth in claim 1, wherein the diskriminator diskriminates the contents of the loaded recording medium based on diskrimination information recorded on the loaded recording medium.

3. A method for skippingly reproducing contents recorded on a recording medium exchangeably loaded in an reproduction apparatus, comprising the steps of:

diskriminating the contents of the loaded recording medium;

accepting skipped section information including a start point and a termination point of a section to be reproduced skippingly;

registering the accepted skipped section information in a point table while associating with the diskriminated contents;

reading out the skipped section information registered in the point table in accordance with the diskriminated contents; and

skippingly reproducing the contents in accordance with the read out skipped section information.

4. The reproduction method as set forth in claim 3, wherein a plurality of the skipped section information associated with the respective contents are registered in the point table; and

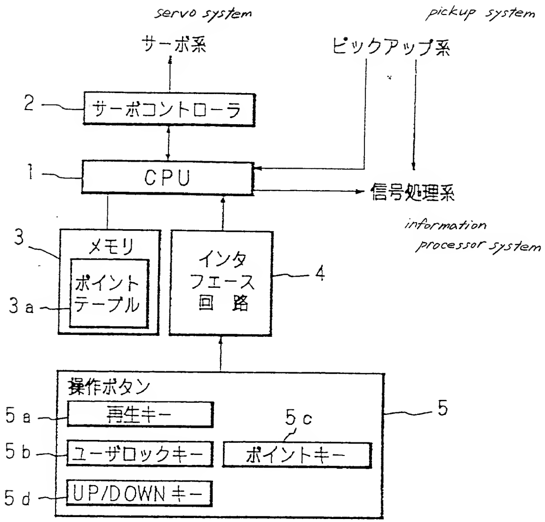
wherein at least one of the skipped section information is selected in accordance with the diskriminated contents to be skippingly reproduced.

5. The reproduction method as set forth in claim 3, wherein the contents of the loaded recording medium is diskriminated based on diskrimination information recorded on the loaded recording medium.

ABSTRACT OF THE DISCLOSURE

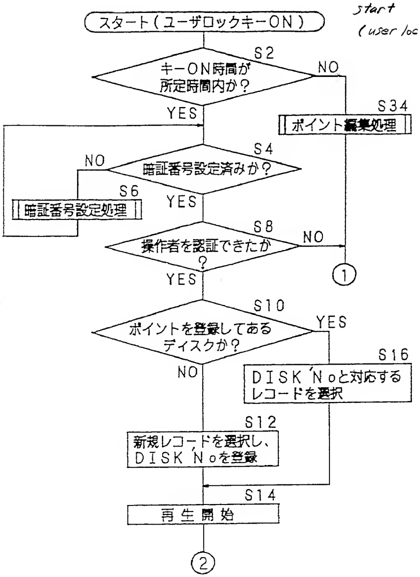
It is checked whether a reproduction using a user lock function has been set (Step S82) and if it has been set, it is checked whether each disk is the one registered in a skip point table 3a according to disk data on the disk loaded, for example, BCA data and the total reproduction time (Step S84). If the disk is otherwise found registered, POINT # is read out and set in the work area of memory 3 (Step S86). The reproduction is also started by using the user lock function (Step S88). In other words, the skip reproduction is carried out when a reproduction point approaches the section defined by the POINT #. It is checked whether or not the remaining reproduction time is zero (Step S90) and if it is not zero, this action is repeated. If the remaining time is found zero at Step S90, the reproduction operation is terminated (Step S92) and so is the whole process.

Fig. 1


servo system
サーボ系
pickup system
ピックアップ系
2
サーボコントローラ
1
CPU
信号処理系
information processor system
3
メモリ
ポイントテーブル
3a
インタフェース回路
4
操作ボタン
5a
再生キー
5b
ユーザロックキー
5c
ポイントキー
5d
UP/DOWNキー
5

2: servo controller
3: memory
3a: skip point table
4: interface circuit
5: operation keys
5a: PLAY key
5b: USER LOCK key
5c: POINT key
5d: UP/DOWN key

Fig. 2


スタート（ユーザロックキーON）
S2
キーON時間が所定時間内か？
NO
YES
S34
ポイント編集処理
S4
NO
暗証番号設定済みか？
S6
暗証番号設定処理
YES
S8
操作者を認証できたか？
NO
YES
①
S10
ポイントを登録してあるディスクか？
YES
S16
DISK No と対応するレコードを選択
NO
S12
新規レコードを選択し、DISK No を登録
S14
再生開始
②

start
(user lock key on)

S2: depressed time period is within predetermined value?

S4: identification number has been set?

S6: identification number setting process

S8: operator is authenticated?

S10: DISK # has been registered?

S16: select record associated with DISK #

S12: register DISK # as new record

S14: start reproduction

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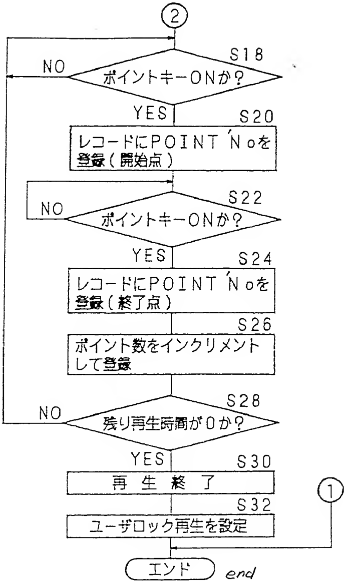
Fig. 3


②
S18
NO
ポイントキーONか?
YES
S20
レコードにPOINT No を登録(開始点)
S22
NO
ポイントキーONか?
YES
S24
レコードにPOINT No を登録(終了点)
S26
ポイント数をインクリメントして登録
S28
NO
残り再生時間が0か?
YES
S30
再 生 終 了
①
S32
ユーザロック再生を設定
エンド
end

S18: POINT key is ON?

S20: register POINT # as start point record

S22: POINT key is ON?

S24: register POINT # as termination point record

S26: increment total number of skip point

S28: remaining reproduction time is zero?

S30: terminate reproduction

S32: establish user lock reproduction

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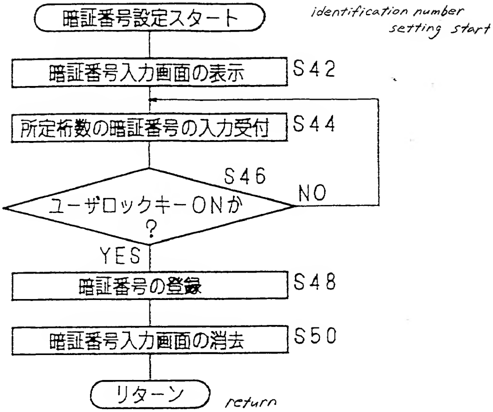
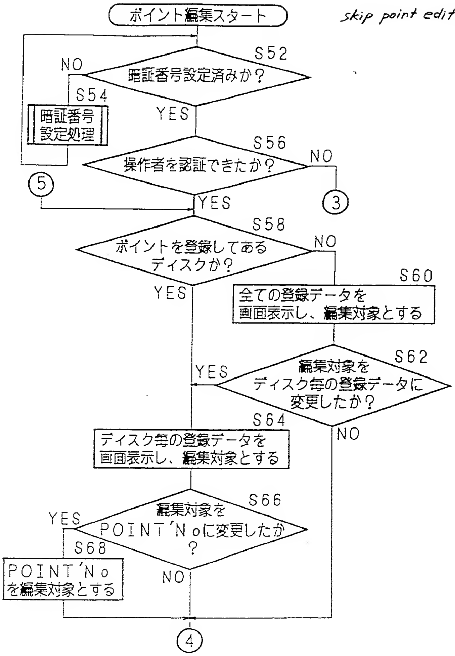
Fig. 4


暗証番号設定スタート
identification number setting start
暗証番号入力画面の表示
S42
所定桁数の暗証番号の入力受付
S44
S46
ユーザロックキーONか？
NO
YES
暗証番号の登録
S48
暗証番号入力画面の消去
S50
リターン
return

S42: display screen for identification number input
S44: accept identification number with predetermined number of digit
S46: USER LOCK key is ON?
S48: register identification number
S50: erase screen for identification number input

Fig. 5


ポイント編集スタート
S52
NO
暗証番号設定済みか？
S54
暗証番号設定処理
YES
S56
操作者を認証できたか？
NO
⑤
③
YES
S58
ポイントを登録してあるディスクか？
NO
S60
全ての登録データを画面表示し、編集対象とする
YES
YES
S62
編集対象をディスク毎の登録データに変更したか？
S64
NO
ディスク毎の登録データを画面表示し、編集対象とする
S66
YES
編集対象をPOINT'Noに変更したか？
S68
POINT'Noを編集対象とする
NO
④

skip point editing start

S52: identification number has been set?

S54: identification number setting process

S56: operator is authenticated?

S58: DISK # has been registered?

S60: display all registered data as object to be edited

S62: loaded disk information is made edited object?

S64: display loaded disk information as edited object

S66: edited object is changed into POINT #?

S68: POINT # is made edited object

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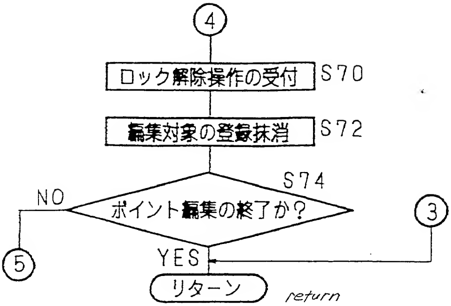
Fig. 6

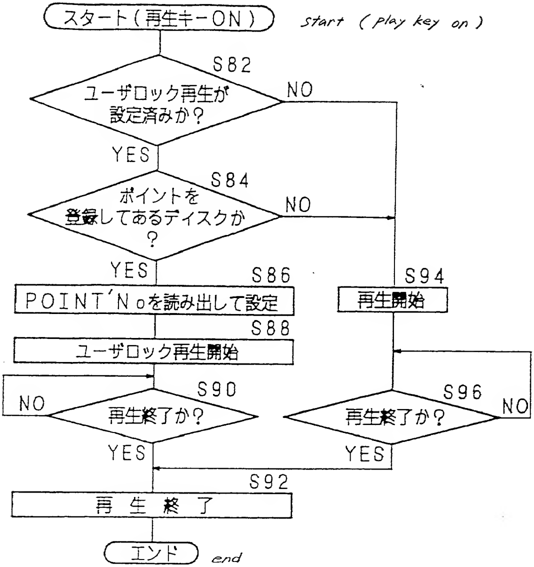

4
ロック解除操作の受付
S70
編集対象の登録抹消
S72
S74
NO
ポイント編集の終了か？
3
5
YES
リターン
return

S70: accept lock cancel operation

S72: cancel registration of edited object

S74: skip point editing is terminated?

Fig. 7


スタート（再生キーON）
start (play key on)
S82
ユーザロック再生が設定済みか？
NO
YES
S84
ポイントを登録してあるディスクか？
NO
YES
S86
POINT'Noを読み出して設定
S88
ユーザロック再生開始
S94
再生開始
S90
NO
再生終了か？
YES
S96
再生終了か？
NO
YES
S92
再生終了
エンド
end

S82: user lock reproduction has been established?
S84: POINT # has been registered?
S86: read out POINT #
S88: start user lock reproduction
S90: reproduction is terminated?
S92: terminate reproduction
S94: start normal reproduction
S96: reproduction is terminated?

09504797.062700

09650427.062200

Fig. 8

disk #

title #

chapter #

point #

total number of skip point

DISK ' No	POINT ' No		ポイント数
	タイトル ' No	チャプタ ' No	
1	1	1 A−A' 2 A−A' 4 A−A', B−B'	4
2	1 3	1 A−A' 3 A−A', B−B' 5 A−A', B−B'	5
3	1	2 A−A', B−B' C−C'	3
4	1	2 A−A' 4 A−A', B−B' 8 A−A'	4
5	1	6 A−A'	1
6	1	1 A−A', B−B' C−C', D−D'	4

COMBINED DECLARATION FOR PATENT APPLICATION AND POWER OF ATTORNEY

U.S. DEPARTMENT OF COMMERCE
Patent and Trademark Office

ATTORNEY DOCKET NO.:

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

RECORDING MEDIUM REPRODUCTION APPARATUS

the specification of which:

is attached hereto; or

was filed as United States application Serial No. ________ on __________ and was amended on ____________(if applicable); or

was filed as PCT international application Number ________ on ___________ and was amended under PCT Article 19 on_________________ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the U.S. Patent and Trademark Office information which is material to the patentability of claims presented in this application in accordance with Title 37, Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119(a)-(d) or §365(b) of any foreign application(s) for patent or inventor's certificate or §365(a) of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

PRIOR FOREIGN APPLICATION(S):

COUNTRY (if PCT, indicate PCT)	APPLICATION NUMBER	DATE OF FILING (day, month, year)	PRIORITY CLAIMED
Japan	P. Hei. 11-183584	29/June/1999	[X] Yes [ ] No
			[ ] Yes [ ] No
			[ ] Yes [ ] No
			[ ] Yes [ ] No

Combined Declaration For Patent Application and Power of Attorney - **(Continued)**
(includes Reference to PCT International Applications)

ATTORNEY DOCKET NO.:

I hereby claim the benefits under Title 35, United States Code §119(e) of any United States provisional application(s) listed below.

U.S. PROVISIONAL APPLICATIONS	
U.S. PROVISIONAL APPLICATION NO.	U.S. FILING DATE

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) or §365(c) of any PCT international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose to the U.S. Patent and Trademark Office all information known to me to be material to the patentability of claims presented in this application in accordance with Title 37, Code of Federal Regulations, §1.56 which became available between the filing date of the prior application(s) and the national or PCT international filing date of this application:

PRIOR U.S. APPLICATIONS OR PCT INTERNATIONAL APPLICATIONS DESIGNATING THE U.S. FOR BENEFIT:

U.S. APPLICATIONS		STATUS (Check One)		
U.S. APPLICATION NO.	U.S. FILING DATE	PATENTED	PENDING	ABANDONED

POWER OF ATTORNEY: As a named inventor, I hereby appoint the registered practitioners of Morgan, Lewis & Bockius LLP included in the Customer Number provided below to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith, and direct that all correspondence be addressed to that Customer Number.

Customer Number: 009629

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Combined Declaration For Patent Application and Power of Attorney - **(Continued)**
(includes Reference to PCT International Applications)

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

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POST OFFICE ADDRESS		
THIRD INVENTOR'S SIGNATURE		DATE

Listing of Inventors Continued on attached page(s) [ ] Yes [X] No